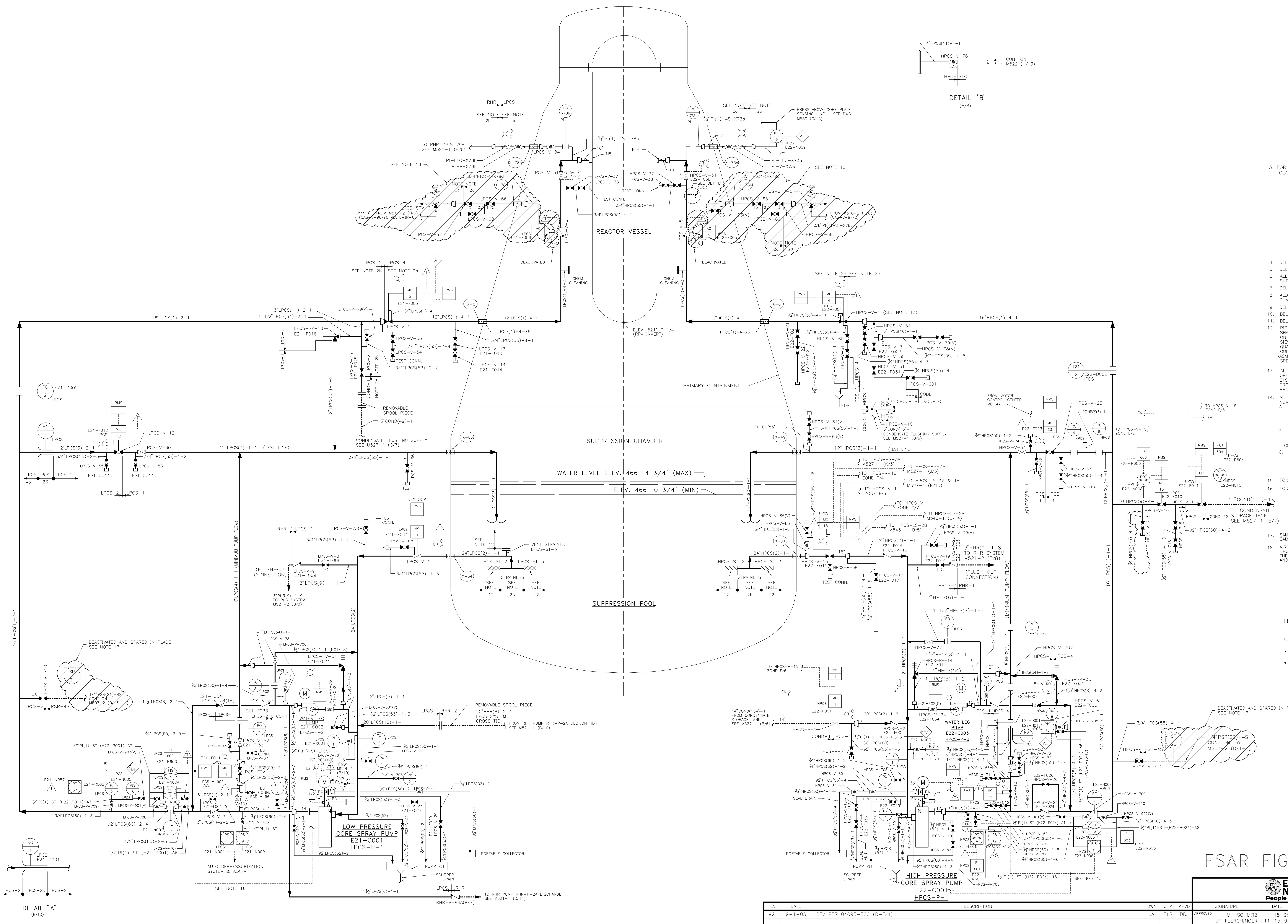
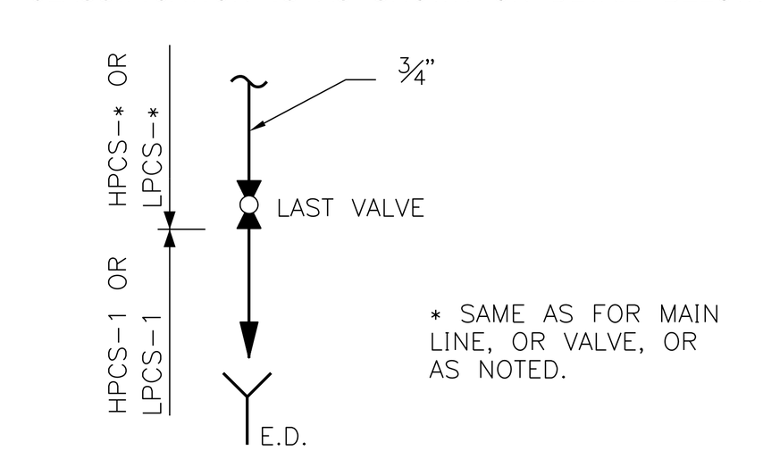


NOTES

1. ALL INSTRUMENT ROOT VALVES NOT LABELED WILL BE 3/4" GLOBE VALVES UNLESS SPECIFICALLY NOTED OTHER WISE.
2. PIPING, VALVES AND ASSOCIATED COMPONENTS ON THIS DRAWING SHALL BE CLASSIFIED AS FOLLOWS EXCEPT AS STATED IN NOTES 12 & 13: (BREAK POINTS ARE INDICATED ON FLOW DIAGRAM)
   a. PIPING AND VALVES OUT THROUGH OUTERMOST REACTOR ISOLATION VALVES
      SEISMIC CATEGORY I
      QUALITY CLASS I
      CODE GROUP A
   b. PIPING AND VALVES BEYOND OUTERMOST REACTOR ISOLATION VALVES PLUS ALL INSTRUMENT LINES, EXCEPT THE PUMP SEAL DRAIN LINES DESIGNATED AS 3/4" LPCS(56)-2 AND 3/4" HPCS(56)-4
      SEISMIC CATEGORY I
      QUALITY CLASS I
      CODE GROUP B
   c. INSTRUMENTATION AIR LINES AND LEAK-OFF PIPING INSIDE CONTAINMENT ISOLATION VALVE:
      SEISMIC CATEGORY I
      QUALITY CLASS I
      CODE GROUP B
   d. INSTRUMENTATION AIR LINES AND LEAK-OFF PIPING OUTSIDE CONTAINMENT ISOLATION VALVE: AND THE PUMP SEAL DRAIN LINES DESIGNATED 3/4" LPCS(56)-2 AND 3/4" HPCS(56)-4 AND OTHER PIPING AND VALVES DESIGNATED BY THIS NOTE
      SEISMIC CATEGORY II ⊕
      QUALITY CLASS II
      CODE GROUP D } Ø
      ⊕ HANGERS TO BE DESIGNED TO SEISMIC CATEGORY I LOADS.
      Ø EXCEPT AS NOTED ON M619 INSTR. CONN. DIAG.
3. FOR DRAIN OR LEAK-OFF LINES, THE PIPING CLASSIFICATION IS AS SHOWN ON DETAIL BELOW.



4. DELETED
5. DELETED
6. ALL PIPING SYSTEMS IDENTIFIED BY THE PREFIX "PI" SHALL BE SUPPLIED AND INSTALLED BY CONTRACT #220.
7. DELETED
8. ALLOWED ADEQUATE PIPING SURFACE AREA FOR COOLING OF PUMP LPCS-P-2.
9. DELETED
10. DELETED
11. DELETED
12. PIPING, VALVES AND ASSOCIATED COMPONENTS ON THIS DRAWING SHALL BE CLASSIFIED AS FOLLOWS (BREAK POINTS ARE INDICATED ON THIS DIAGRAM)
    SIESMIC CATEGORY I
    QUALITY CALSS I
    CODE GROUP B*
    *ASME III/2 WITH EXCEPTIONS. SEE PROCUREMENT SPECIFICATION 12023.
13. ALL PIPING DOWNSTREAM OF THE LAST ISOLATION VALVE AND OPEN TO THE ATMOSPHERE WITH THE SUBSYSTEM DESIGNATION SYSTEM (50) THROUGH (59) SHALL BE CLASSIFIED AS CODE GROUP D WITH QUALITY CLASS AND SEISMIC CATEGORY PROVIDED BY THE APPLICABLE NOTES ON THIS DRAWING.
14. ALL INSTRUMENT LINES ARE DESIGNATED BY CODE AND LINE NUMBER, EXAMPLES;
    A. LINE ORIGINATING OUTSIDE CONTAINMENT.
       1/2" PI(1)-4S-(H22-P021)-A6
       CODE DESIGNATION — LINE NO.
    B. LINES ORIGINATING INSIDE CONTAINMENT.
       1/2" PI(1)-4S- X106
       CODE DESIGNATION — LINE NO.
    C. CONTINUATION OF THE ABOVE LINE OUTSIDE CONTAINMENT IS DESIGNATED AS FOLLOWS W/LINE NUMBERS NOT SHOWN.
       1/2" PI(1)-ST-X106-(H22-P021)
       LINE DESIGNATION — LINE NO.
15. FOR DETAILED WIRING SEE EWD-7E-0023.
16. FOR DETAILED WIRING SEE EWD-8E-0008.
17. SAMPLE POINT IS NO LONGER FUNCTIONAL. ALTERNATE METHOD OF SAMPLING IS DONE PER THE APPLICABLE PPM.
18. AIR OPERATOR AND AIR SUPPLY FOR TESTABLE CHECK VALVES HPCS-V-5 AND LPCS-V-6 ARE DEACTIVATED AND SPARED IN PLACE. THESE VALVES ARE TESTED PER THE IST PROGRAM. PENETRATION AND ISOLATION/TEST VALVES ARE STILL ACTIVE.

LEGEND

1. ALL VALVES (EXCEPT THOSE ON INSTRUMENT LINES) SUFFIXED WITH A (V) DENOTE A 3/4" VENT VALVE EXCEPT AS NOTED.
2. ALL VALVES (EXCEPT THOSE ON INSTRUMENT LINES) SUFFIXED WITH A (D) DENOTE A 3/4" DRAIN VALVE.
3. ALL VALVES SUFFIXED WITH A (TH) DENOTE A THROTTLED VALVE.

FSAR FIG.

ENERGY NORTHWEST
People·Vision·Solutions

COLUMBIA GENERATING STATION

REV	DATE	DESCRIPTION	DWN	CHK	APVD
92	9-1-05	REV PER 04095-300 (D-E/4)	H.AL	BLS	DRJ

	SIGNATURE	DATE
APPROVED	MH SCHMITZ	11-15-99
	JP FLERCHINGER	11-15-99
CHECKED	SCOTT PAYNE	11-10-99
	H. LE	11-9-99
DRAWN	K. LUCAS	5-6-99
SCALE	NONE	

TITLE: FLOW DIAGRAM HPCS AND LPCS SYSTEMS REACTOR BUILDING

DWG NO. M520 — REV. 92

SERVER84\MECH\M500\M520.DWG

PDS2-E1 R0 (9/94)

TOP TIER